

You can't say
FAIRNESS
without saying
AI

Timandra Harkness

AI



"It will not be possible to apply exactly the same teaching process to the machine as to the normal child.

It will not, for example, be provided with legs, so it could not be asked to go out and fill the coal scuttle."

"Possibly it might not have eyes.

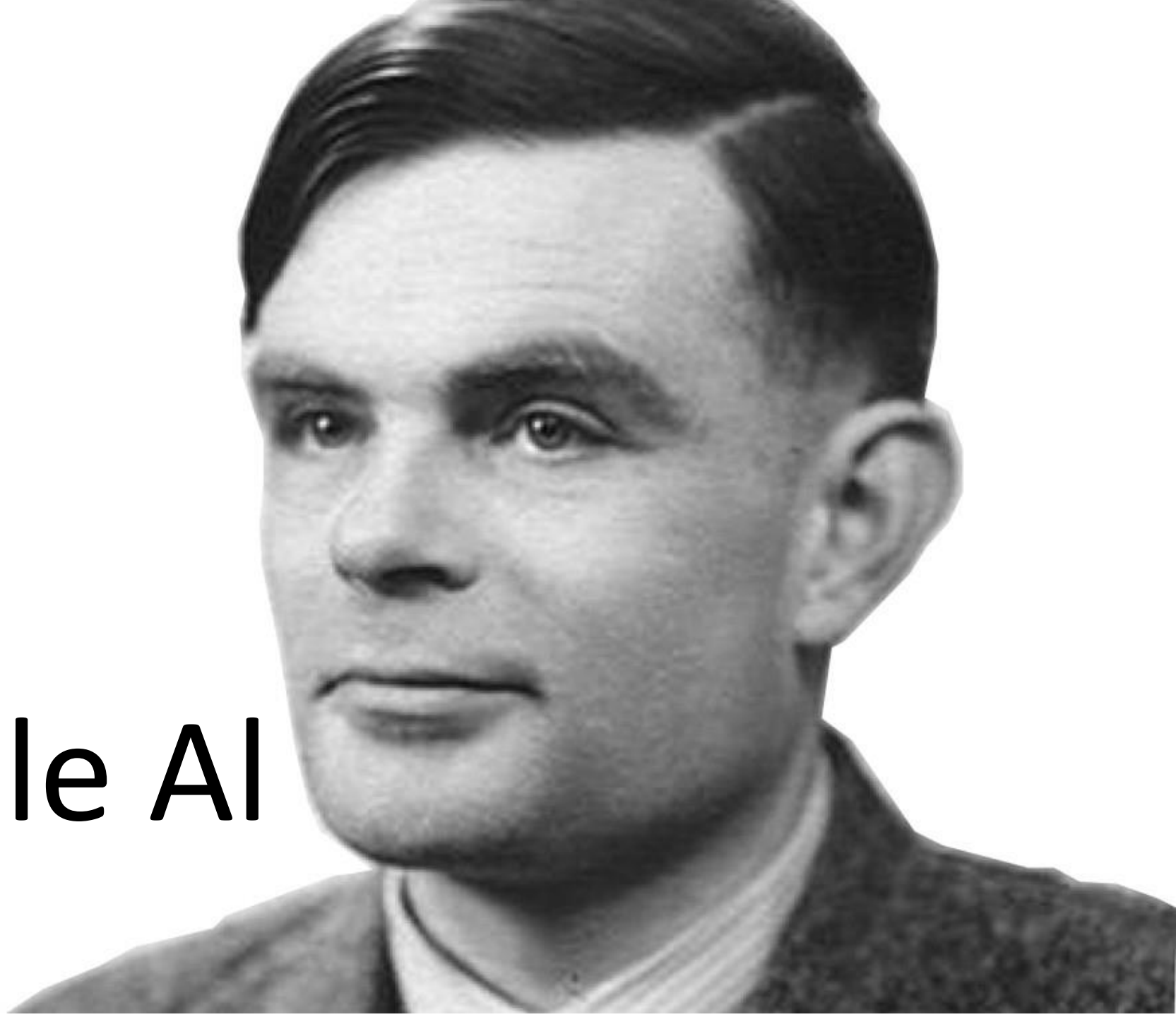
But however well these deficiencies might be overcome by clever engineering, one could not send the creature to school without the other children making excessive fun of it"

AI





Little Al



“Suppose Mother wants Tommy to call at the cobbler’s every morning on his way to school to see if her shoes are done, she can ask him afresh every morning.”

“Alternatively she can stick up a notice once and for all in the hall which he will see when he leaves for school and which tells him to call for the shoes, and also to destroy the notice when he comes back if he has the shoes with him.”

Have you seen a flow chart before?

Have you seen a flow chart before?

Yes

No

Have you seen a flow chart before?

Yes

No

Then you know what I mean

Have you seen a flow chart before?

Yes

No

Then you know what I mean

You have now

1 : Go To Cobblers

1 : Go To Cobblers

2 : Are Mother's Shoes Ready?

Yes

No

1 : Go To Cobblers

2 : Are Mother's Shoes Ready?

Yes

No

Go back to 1

Wait 1 day

1 : Go To Cobblers

2 : Are Mother's Shoes Ready?

Yes

No

Go back to 1

Wait 1 day

1 : Go To Cobblers

2 : Are Mother's Shoes Ready?

Yes

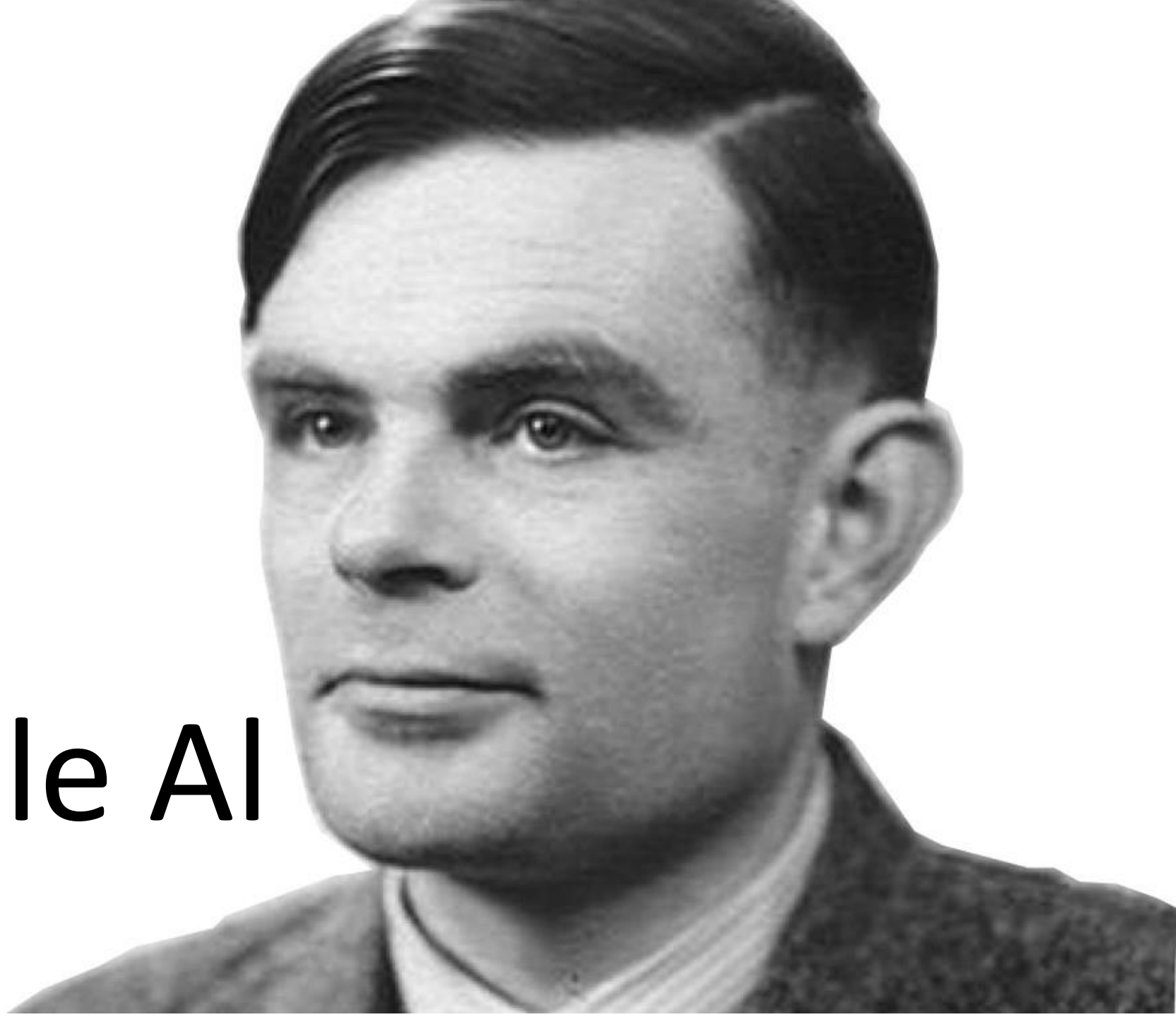
No

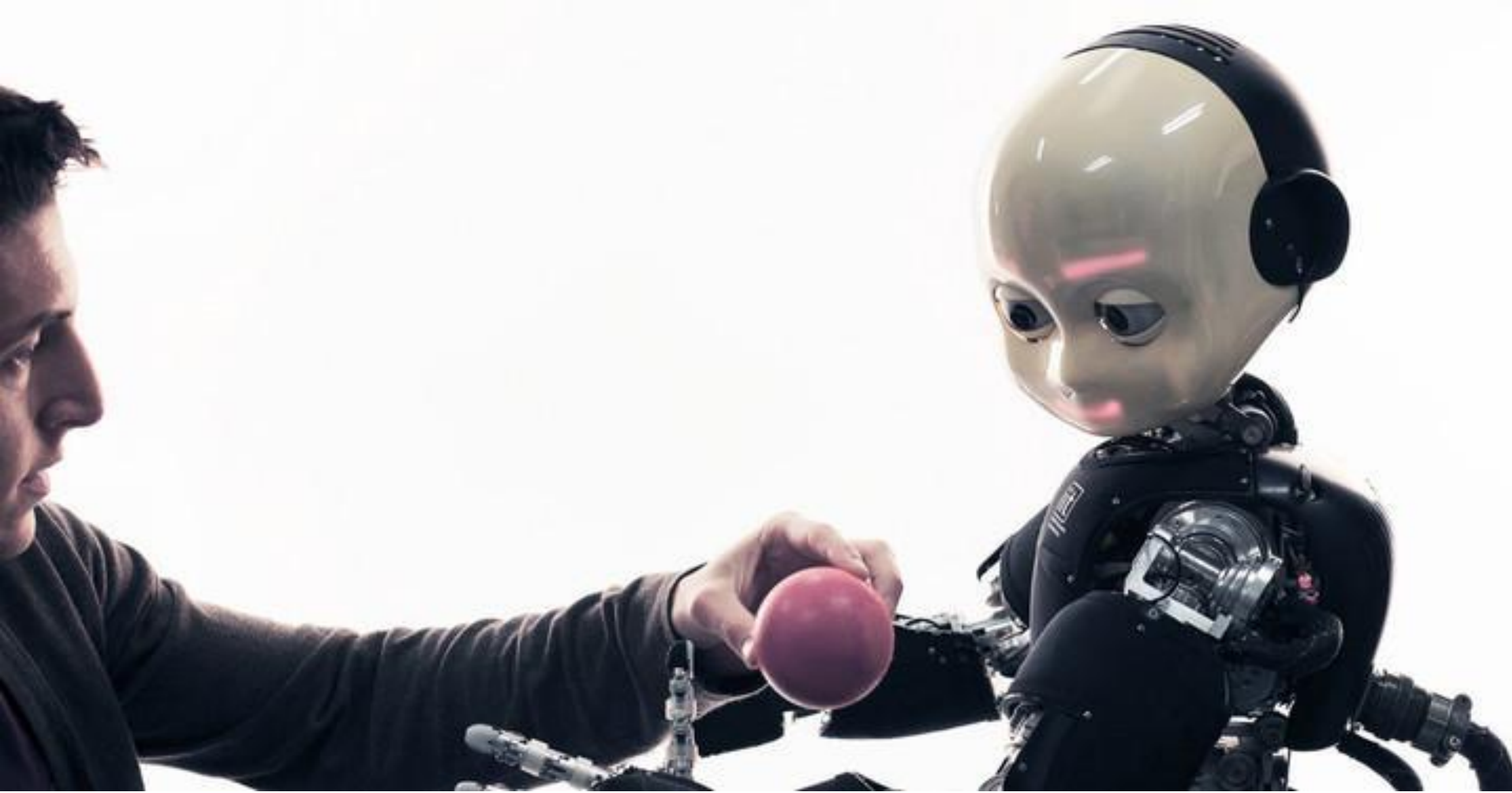
Go back to 1

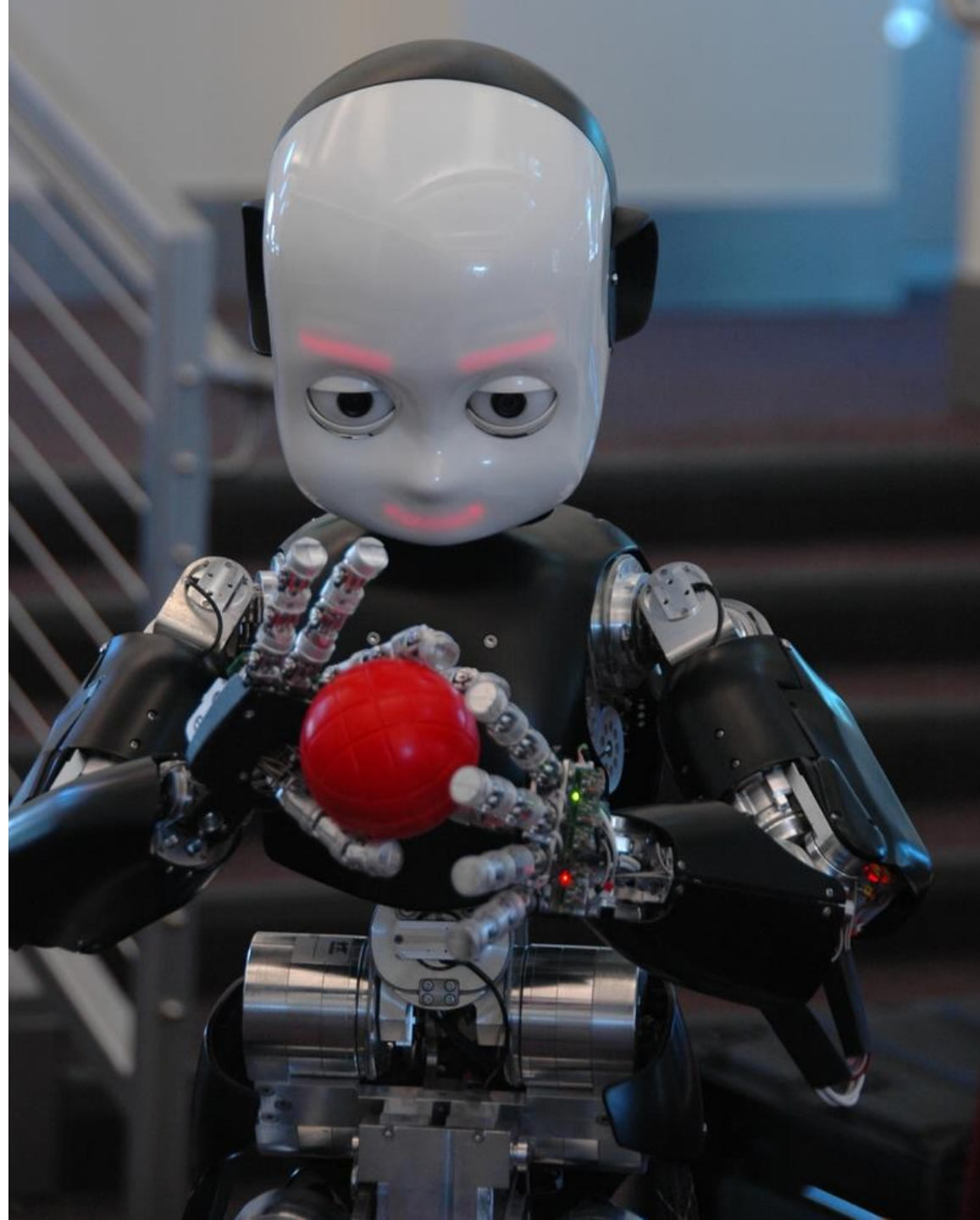
Take this notice down when you come home

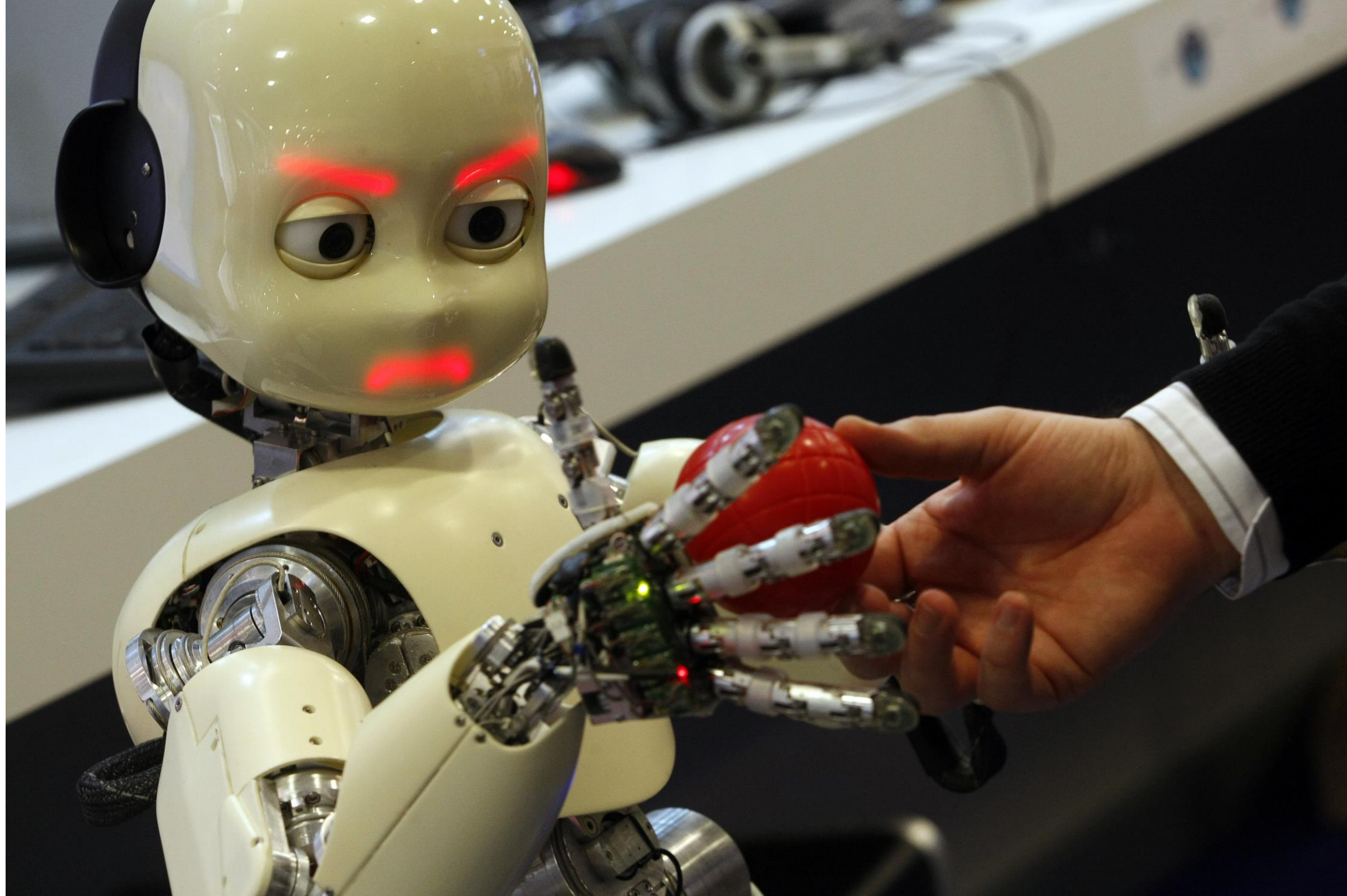


Little Al









ENSE

ΣΚΕΨΟΥ

THINK

DE

ΣΜΑΘΙΝΙΣ

सोचिए



\$24,000

\$77,147

\$21,600

Who is Stoker?
(FOR ONE WELCOME OUR
NEW COMPUTER OVERLORDS)
\$1,000

Who is Bram
Stoker?
\$17,973

WHO IS
BRAM STOKER?
\$5600

IIT Roorkee Creates App to Predict Crowd Levels in Public Places, Wins Smart Move Innovative Urban Mobility Challenge



The final product by IIT Roorkee consists of an Android application for the users and a web page to replicate the digital passenger information board installed at bus stops.

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EDUCATION AND CAREERS DESK

Indian Institute of Technology (IIT) Roorkee is the winner of the Smart Move Innovative Urban Mobility Challenge. The team developed an interactive passenger information system to predict the crowding levels in the public transit system.

The final product consists of an Android application for the users and a web page to replicate the digital passenger information board installed at bus stops. The route planning algorithm integrates advanced machine learning and artificial intelligence models trained on the historical ticketing data to predict the crowding levels in the public transit system.

TAXI FACTS



NYC
Taxi & Limousine
Commission

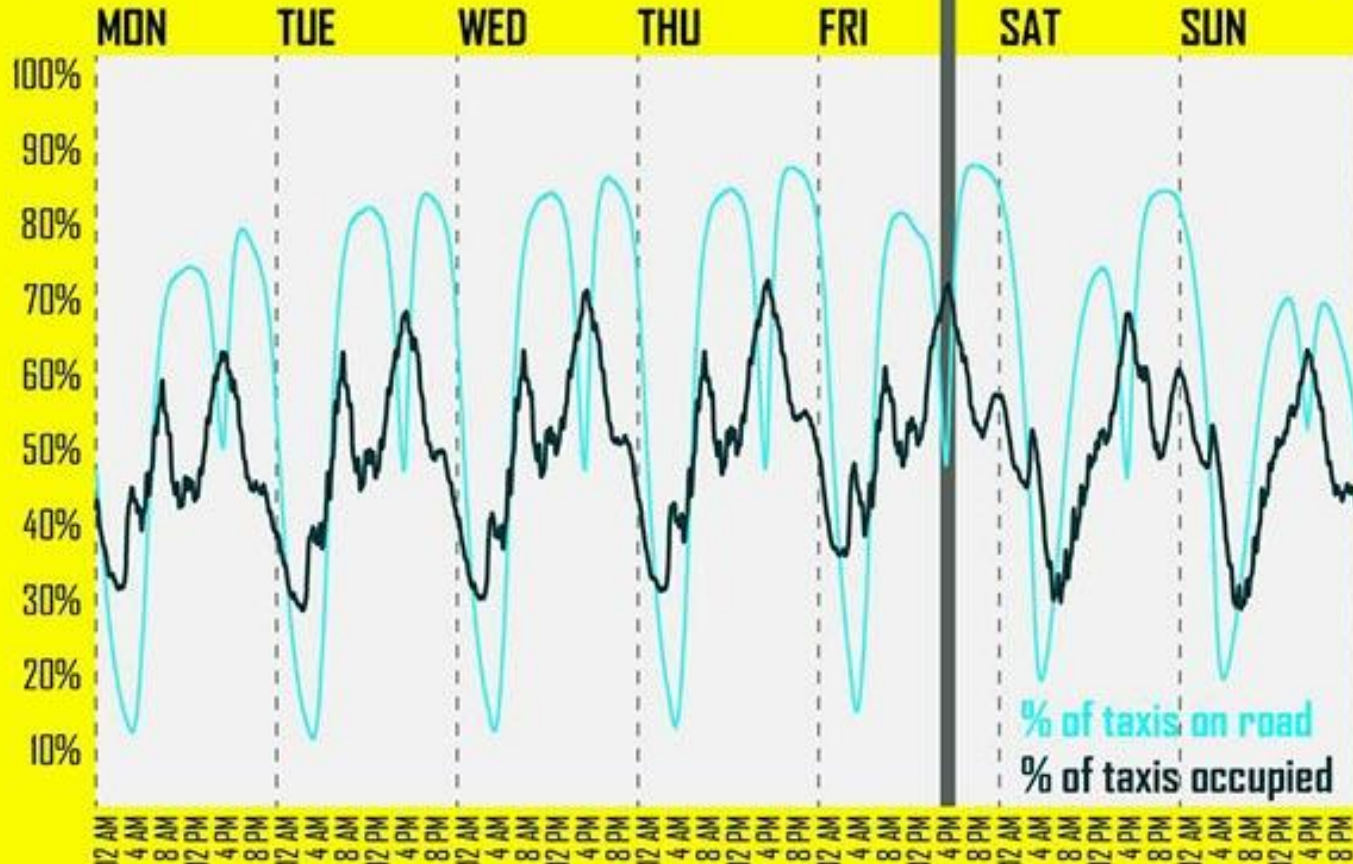
At the PM rush hour, fewer taxis are on the road as taxis change drivers for the evening shift.

Nearly two-thirds of the taxis left on the road between 4 PM and 6 PM are occupied.

PM SHIFT CHANGE

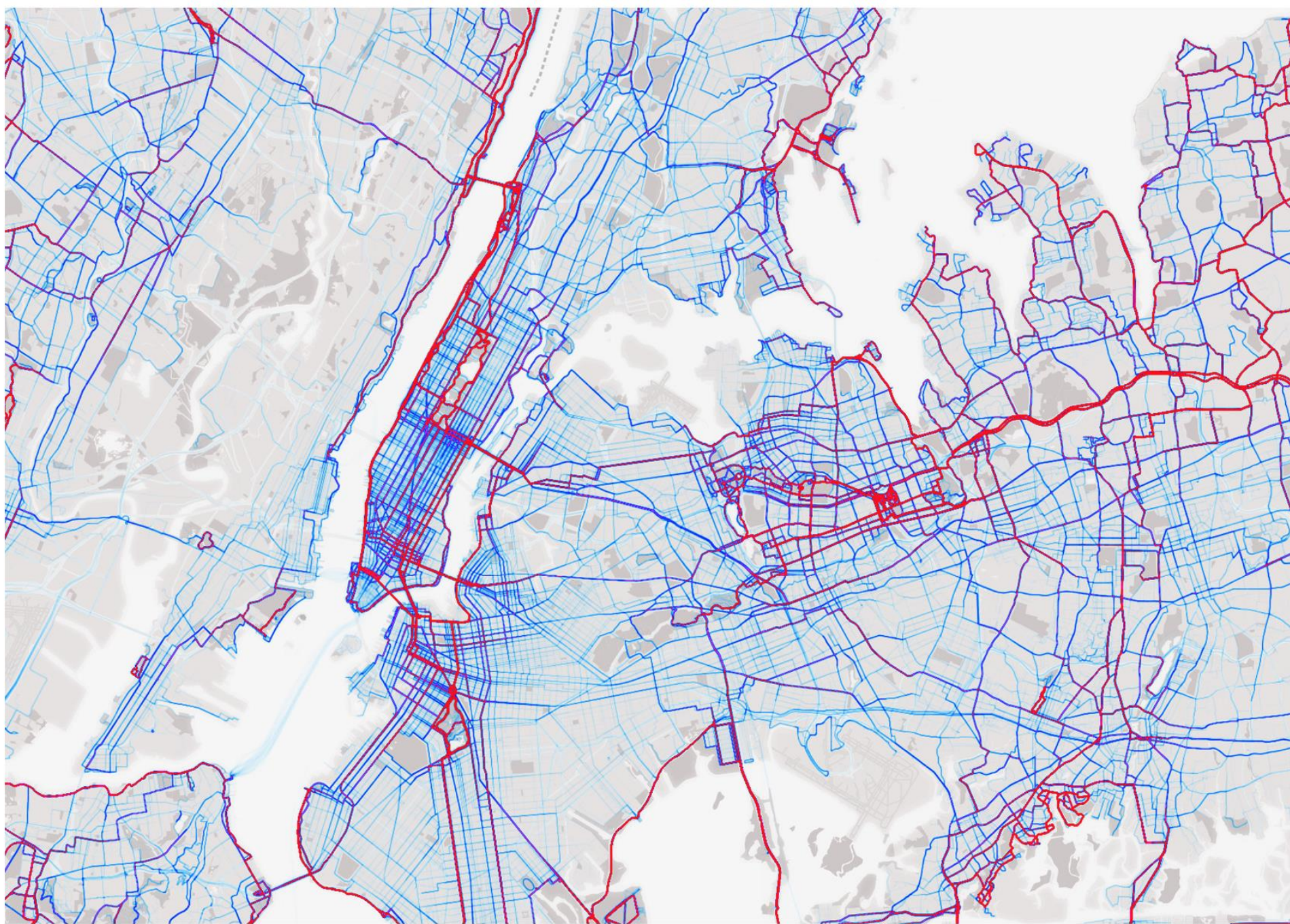
33% fewer taxis than noon

64% of taxis occupied

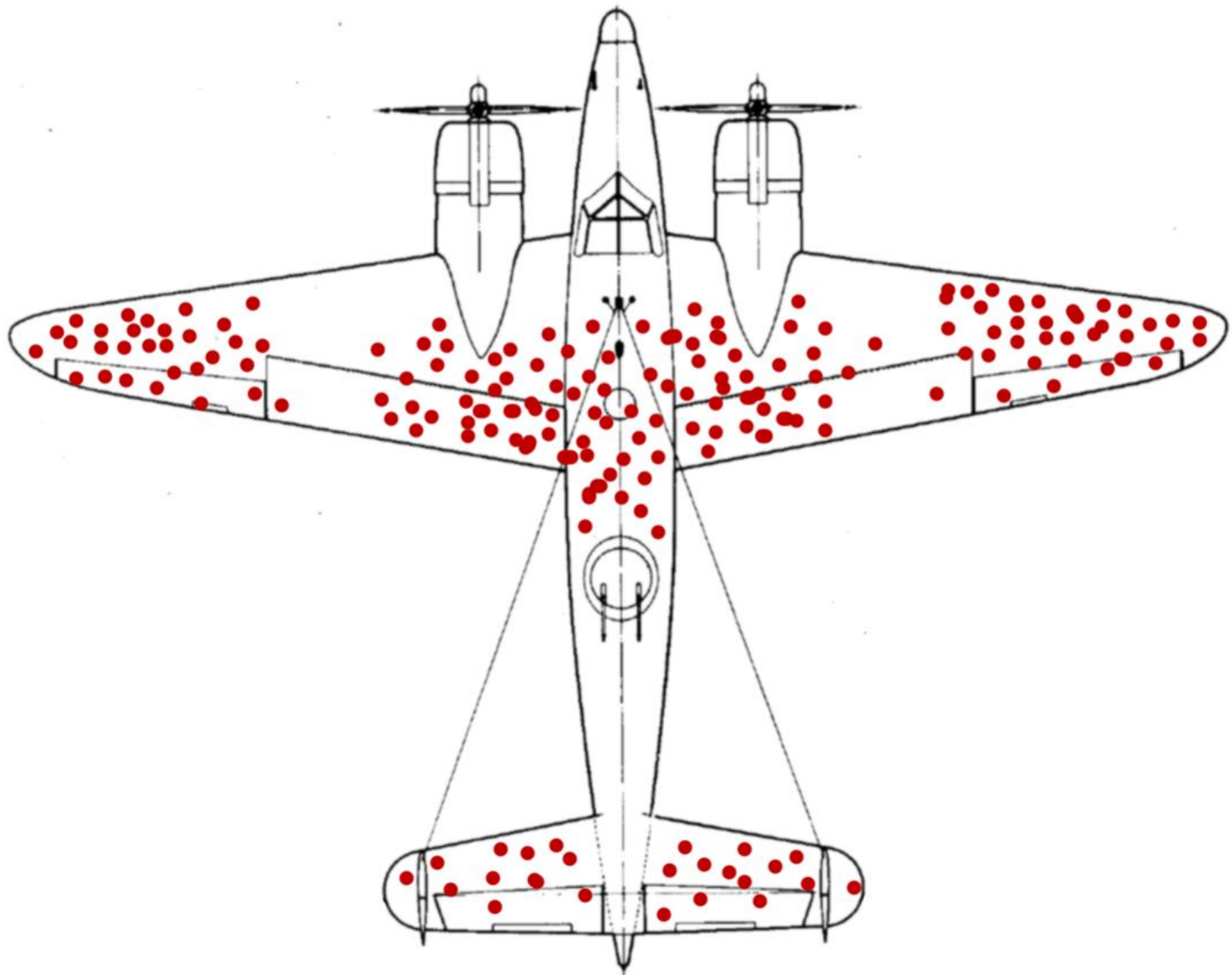


#metricmondays

STRAVA



Heat map of routes in New York City | Image via Strava Metro



What is missing?

Risk Assessment

PERSON			
Name: [REDACTED]		Offender #: [REDACTED]	DOB: [REDACTED]
Gender: Male	Marital Status: Single	Agency: DAI	

ASSESSMENT INFORMATION			
Case Identifier: [REDACTED]	Scale Set: Wisconsin Core - Community Language	Screener: [REDACTED]	Screening Date: [REDACTED]

Current Charges

- | | | | |
|---|--|---|---|
| <input type="checkbox"/> Homicide | <input checked="" type="checkbox"/> Weapons | <input checked="" type="checkbox"/> Assault | <input type="checkbox"/> Arson |
| <input type="checkbox"/> Robbery | <input type="checkbox"/> Burglary | <input type="checkbox"/> Property/Larceny | <input type="checkbox"/> Fraud |
| <input type="checkbox"/> Drug Trafficking/Sales | <input type="checkbox"/> Drug Possession/Use | <input type="checkbox"/> DUI/OUIL | <input checked="" type="checkbox"/> Other |
| <input type="checkbox"/> Sex Offense with Force | <input type="checkbox"/> Sex Offense w/o Force | | |

1. Do any current offenses involve family violence?
 No Yes
2. Which offense category represents the most serious current offense?
 Misdemeanor Non-violent Felony Violent Felony
3. Was this person on probation or parole at the time of the current offense?
 Probation Parole Both Neither

76. How often did you have conflicts with teachers at school?
 Never Sometimes Often

118. "I have gotten involved in things I later wished I could have gotten out of."
 Strongly Disagree Disagree Not Sure Agree Strongly Agree

136. "Many people get into trouble or use drugs because society has given them no education, jobs or future."
 Strongly Disagree Disagree Not Sure Agree Strongly Agree



Bernard Parker, left, was rated high risk. Dylan Fugett was rated low risk. (Josh Ritchie for ProPublica)

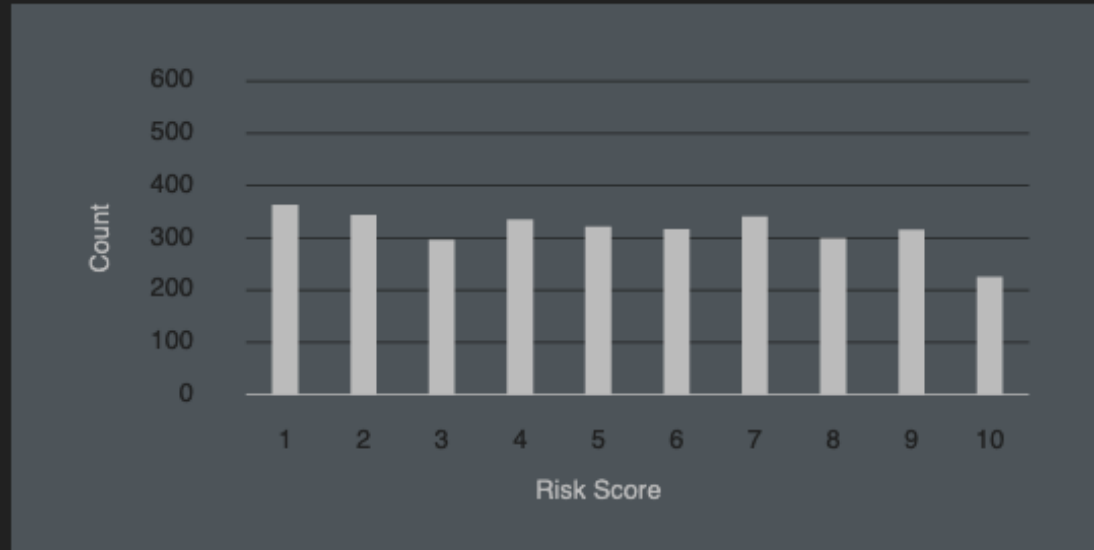
Machine Bias

There's software used across the country to predict future criminals. And it's biased against blacks.

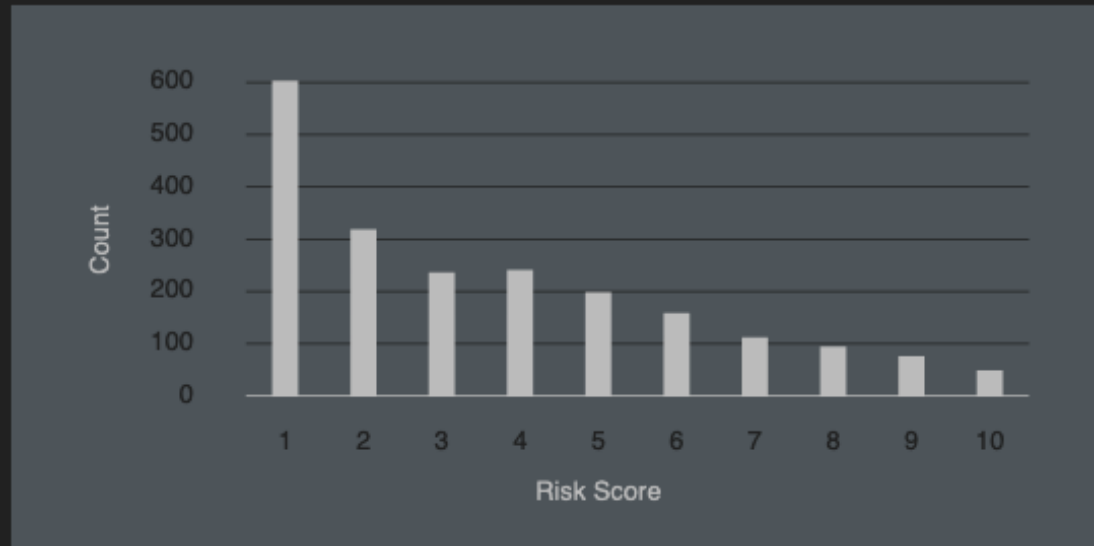
by Julia Angwin, Jeff Larson, Surya Mattu and Lauren Kirchner, ProPublica

May 23, 2016

Black Defendants' Risk Scores



White Defendants' Risk Scores



These charts show that scores for white defendants were skewed toward lower-risk categories. Scores for black defendants were not. (Source: ProPublica analysis of data from Broward County, Fla.)

In theory, judges are not supposed to give longer sentences to defendants with higher risk scores. Rather, they are supposed to use the tests primarily to determine which defendants are eligible for probation or treatment programs.

Prediction Fails Differently for Black Defendants

	WHITE	AFRICAN AMERICAN
Labeled Higher Risk, But Didn't Re-Offend	23.5%	44.9%
Labeled Lower Risk, Yet Did Re-Offend	47.7%	28.0%

Overall, Northpointe's assessment tool correctly predicts recidivism 61 percent of the time. But blacks are almost twice as likely as whites to be labeled a higher risk but not actually re-offend. It makes the opposite mistake among whites: They are much more likely than blacks to be labeled lower risk but go on to commit other crimes. (Source: ProPublica analysis of data from Broward County, Fla.)

But judges have cited scores in their sentencing decisions. In August 2013, Judge Scott Horne in La Crosse County, Wisconsin, declared that defendant Eric Loomis had been “identified, through the COMPAS assessment, as an individual who is at high risk to the community.” The judge then imposed a sentence of eight years and six months in prison.

Response to ProPublica: Demonstrating accuracy equity and predictive parity

The Northpointe Suite • An equivant product



Now the numbers correctly correspond with the row names in PP’s table. The results actually indicate that in comparison with whites a slightly lower percentage of blacks were “Labeled Higher Risk, But Didn’t Re-Offend” (37% vs. 41%). The results also show that in comparison with whites, only a slightly higher percentage of blacks were “Labeled Lower Risk, Yet Did Re-Offend” (35% vs. 29%). Thus we conclude that the General Recidivism Risk Scale exhibits predictive parity for blacks and whites. This result refutes PP’s claim of racial bias. Appendix A includes supplemental results including the classification statistics across all the decile scores.

	White	African American
Labeled Higher Risk, But Didn’t Re-Offend	41%	37%
Labeled Lower Risk, Yet Did Re-Offend	29%	35%

Table 3.1: Propublica’s table with correct target population errors at the study cut point (Low vs. Not Low) for the General Recidivism Risk Scale.

What is
FAIRNESS?

